What is claimed is:

1. An apparatus for detecting outgas contaminants generated from an article that comprises:

a portable housing that has a chamber which is in communication with a port that is adapted to be sealably attached to a surface of the article;

a mass spectrometer that is coupled to the chamber for analyzing gaseous materials in the chamber; and

means for generating a vacuum within the chamber thereby drawing outgas contaminants from the surface of the article into the chamber for analysis by the mass spectrometer.

2. The apparatus of claim 1 wherein the mass spectrometer has an entrance port that is in direct gaseous communication with the chamber.

3. The apparatus of claim 1 wherein the means for generating a vacuum comprises a pump.

4. The apparatus of claim 1 wherein the port includes a nozzle having a polymer lining adapted to seal the surface of the article.

5. The apparatus of claim 1 wherein the apparatus does not include means for separating one or more gas components from the gaseous materials in the chamber prior to being analyzed in the mass spectrometer.

6. The apparatus of claim 1 wherein the mass spectrometer generates analysis data for the outgas contaminants and the apparatus includes means for comparing said analysis data for the outgas contaminants to analysis data for a background gas sample.

7. A method of analyzing gas contaminants that are generated from an article that is located within an environment, said method comprising the steps of:

(1) performing a mass spectrometric analysis of the environment;

(2) performing a mass spectrometric analysis of gas emanating from the article; and

(3) comparing the analyses from steps 1 and 2 to determine what gas contaminants, if any, are generated from the article.

8. The method of claim 7 wherein step 2 is performed with an apparatus that comprises:

a portable housing that has a chamber which is in communication with a port that is adapted to be sealably attached to a surface of the article;

a mass spectrometer that is coupled to the chamber for analyzing gaseous materials in the chamber; and

means for generating a vacuum within the chamber thereby drawing outgas contaminants from the surface of the article into the chamber for analysis by the mass spectrometer.

9. The method of claim 8 wherein the mass spectrometer has an entrance port that is in direct gaseous communication with the chamber.

10. The method of claim 8 wherein the means for generating a vacuum comprises a pump.

11. The method of claim 8 wherein the port includes a nozzle having a polymer lining adapted to seal the surface of the article.

12. The method of claim 8 wherein the apparatus does not include means for separating one or more gas components from the gaseous materials in the chamber prior to being analyzed in the mass spectrometer.

13. The method of claim 8 wherein the mass spectrometer generates analysis data for the outgas contaminants and the apparatus includes means for comparing said analysis data for the outgas contaminants to analysis data for a background gas sample.

14. The method of claim 8 wherein step 2 comprises:

(1) positioning the port on a surface of the article;

(2) creating a vacuum within the chamber whereby gas from the surface is drawn into the chamber;

(3) analyzing the gas in the chamber with the mass spectrometer.